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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MASA AKI YAMANAKA,
HIROSHI KOYAMA, and YASUHIRO UEDA

Appeal 2009-003798
Application 08/855,905
Technology Center 1700

Decided: September 24, 2009

Before EDWARD C. KIMLIN, BRADLEY R. GARRIS, and
CHARLES F. WARREN, *Administrative Patent Judges*.

WARREN, *Administrative Patent Judge*.

DECISION ON APPEAL

Applicants appeal to the Board from the decision of the Primary Examiner finally rejecting claims 1 and 28 through 49 in the Office Action mailed March 15, 2007. 35 U.S.C. §§ 6 and 134(a) (2002); 37 C.F.R. § 41.31(a) (2007).

An oral hearing was held September 17, 2009.¹

We affirm the decision of the Primary Examiner.

Claim 1 illustrates appellants' invention of a synthetic paper, and is representative of the claims on appeal:

1. A synthetic paper having a film obtained by oxidizing the surface of a film obtained by stretching a resin film, said resin film comprising as the base material a resin composition consisting essentially of

100 parts by weight of resin components and from 10 to 250 parts by weight of component E: fine inorganic particles;

said resin components comprising, based on the total weight of the resin components;

55-90 wt% of component A: a polypropylene resin,

5-40 wt% of component B: a polyetheresteramide containing aromatic rings which is derived from

component b1: a polyamide having a number-average molecular weight of from 200 to 5,000 and containing a carboxyl group at each end, and

component b2: an alkylene oxide adduct of bisphenol having a number-average molecular weight of from 300 to 5,000,

3-20 wt% of component C: a polyamide resin, and

1-20 wt% of component D: at least one modified low-molecular weight polypropylene selected from the group consisting of

component d1: an acid-modified low-molecular weight polypropylene having a number-average molecular weight of from 800 to 25,000 and an acid value of from 5 to 150,

¹ An appeal, whether on brief or heard, is decided on the record. 37 C.F.R. § 41.37(c)(1)(vii) provides in pertinent part: "Any arguments or authorities not included in the brief or a reply brief filed pursuant to § 41.41 will be refused consideration by the Board, unless good cause is shown." *See also* Manual of Patent Examining Procedure §§ 1205.02 and 1209 (8th ed., Rev. 3, August 2005; 1200-14 and 1200-48).

component d2: a hydroxy-modified low-molecular weight polypropylene having a number-average molecular weight of from 800 to 25,000 and a hydroxyl value of from 5 to 150, and

component d3: an ester-modified low-molecular weight polypropylene obtained by partly or wholly esterifying component d1 with a polyoxyalkylene compound and having a number-average molecular weight of from 1,000 to 28,000;

said stretching being conducted at a temperature lower than the melting point of the propylene resin as component A, said stretching and oxidation of said stretched film generating ultra fine cracks on a surface of said stretched film through which component B as permanent antistatic agent appears and possessing gloss of from 15 to 60% and opaqueness of from 83 to 96%.

The Examiner relies upon the evidence in these references (Ans. 3): ²

Takashi	4,318,950	Mar. 9, 1982
Ohba	5,233,924	Aug. 10, 1993
Ueda	0 613 919 A1	Sep. 7, 1994

Appellants request review of the ground of rejection under 35 U.S.C. § 103(a) advanced on appeal by the Examiner: appealed claims 1 and 28 through 49 over Takashi in view of Ohba and Ueda. App. Br. 5; Ans. 3.

Appellants argue all of the claims as a group; claims 34 and 38 as a group; and claims 46 and 48 as a group, and separately argue each of claims 30 through 33, 47 and 49. *See generally* App. Br. Thus, we decide this appeal based on claims 1, 30 through 34, and 47 through 49. 37 C.F.R. § 41.37(c)(1)(vii) (2007).

Issue

The issues on appeal are whether Appellants have shown that the

² We considered the Appeal Brief filed September 20, 2007, the Examiner's Answer mailed November 20, 2007, and the Reply Brief filed January 22, 2008.

evidence in the combined teachings of Takashi, Ohba, and Ueda does not support the Examiner's conclusions of prima facie obviousness of the claimed synthetic paper encompassed by appealed claims 1, 30 through 34, and 47 through 49, and, if not, whether Appellants have shown that the evidence of record, including Specification Comparative Examples 1-3³ and Yamanaka Declarations I-V under 37 C.F.R. § 1.132 of record⁴ as argued in the Briefs, weighs in favor of non-obviousness.

Findings of Fact

We find that Takashi would have evinced it was known in the art to prepare synthetic papers from thermoplastic resin film which contains a fine inorganic filler, is oriented or stretched under elevated temperatures, and can be one layer of a laminate. Takashi col. 1, ll. 24-45. Takashi would have disclosed to one of ordinary skill in this art a laminated synthetic paper for writing and high grade printing having a base film layer and a paper-like film layer on at least one side of the base film layer. Takashi, e.g., abstract, col. 2, ll. 20-22, col. 3, ll. 31-48, and col. 4, ll. 3-24. The paper-like surface film layer is a thermoplastic resin film which can contain 0.5 to 65 weight percent of fine inorganic particulate filler and is uniaxially oriented or

³ Spec. 31-33.

⁴ Declarations under 37 C.F.R. § 1.132 by Appellant Yamanaka: Yamanaka Declaration I, executed October 6, 1999; Yamanaka Supplemental Declaration, executed March 22, 2001 (Yamanaka Declaration II); Yamanaka Second Supplemental Declaration, executed July 12, 2002 (Yamanaka Declaration III); and Yamanaka Third Supplemental Declaration, executed May 19, 2003 (Yamanaka Declaration IV); and Yamanaka Fourth Supplemental Declaration, executed July 31, 2006 (Yamanaka Declaration V).

stretched at elevated temperatures to at least 2.5 times and higher, e.g., up to 16 times, the original dimension, creating microvoids open to the surface. The microvoids are 10% to 65% of the volume of the film and determine the gloss and opaqueness of the film. Takashi, e.g., abstract, col. 2, ll. 26-64, col. 4, ll. 24-40, col. 5, ll. 1-56, and col. 6, l. 62 to col. 7, l. 10. Takashi discloses the microvoids on the surface of the resin layer provide better ink reception than other synthetic papers, and improved writing and printing as well as improve light reflective characteristics so that the whiteness and opacity is better than that of synthetic films and papers. Takashi col. 5, l. 36 to col. 6, l. 4; *see also* col. 7, ll. 11-16. The surface of the paper-like resin film layer is polarized, that is, oxidized, by a corona discharge treatment at a voltage of 3,000 to 30,000 and a plate current of 0.5 to 5 amperes, to improve ink adhesion during printing. Takashi col. 4, ll. 45-58.

The paper-like film layer can be a polyolefin such as polypropylene. Takashi col. 6, ll. 14-23 and 34-37. The manufacturing conditions, including starting materials, extruder molding and stretching temperatures, for the exemplified synthetic papers, including polypropylene and polypropylene/polyethylene base film and paper-like film layers, are set forth in Tables II(a)-(b) and III. The starting materials for the paper-like surface film layer include aliphatic antistatic agents and other additives. Takashi col. 8, l. 33 to col. 9, l. 21 and Tables II(a)-(b) and III. Takashi discloses the antistatic agent can be used in the amount of “about 0.1% to about 1.5% by weight.” Takashi col. 19, ll. 17-22. The properties of the exemplified films and the effect of filler content thereon, including gloss and

opaqueness within the ranges of 15 to 60% and 83 to 96%, respectfully, are set forth in Tables IV, V, and VII(a)-(b).

We find Ohba evinces that Takashi would have disclosed “[a] synthetic paper obtained by stretching a polypropylene film containing from 8 to 65% by weight of an inorganic fine powder,” and that “[s]ynthetic paper of this type has a microstructure in which fine voids are formed around inorganic fine powder and a vast number of streaking cracks are formed on the surface . . . [and] is not only lightweight but has excellent printing ink receptivity, pencil writability, water resistance, etc.” Ohba col. 1, ll. 15-30. Ohba would have disclosed to one of ordinary skill in this art a synthetic paper with a finely porous polyolefin film layer, such as a polypropylene resin film, “having an opacity of at least 80% which is obtained by stretching a polyolefin film containing from 8 to 65% by weight of an inorganic fine powder.” Ohba col. 3, 31-55, col. 6, l. 66 to col. 7, l. 54 , and Tables 2 and 3.

We find that Ueda would have disclosed to one of ordinary skill in this art a particular class of “polyetheresteramide with high heat resistance, permanently antistatic property and superior compatibility with thermoplastic resins” compared with other polyetheresteramides. Ueda, e.g., 2:3-48, abstract, and 3:1 to 4:38. The relative viscosity of the polyetheresteramide is in the range of 0.5-4.0 in a 0.5% m-cresol solution at 25°C. Ueda 4:21-24. Ueda teaches the compatibility of the polyetheresteramide with thermoplastic resins, of which polypropylene is preferred, can be improved with acid modified, hydroxy-modified and ester-modified vinyl polymers, including low-molecular weight polypropylene.

Ueda, e.g., abstract, 2:50-55, 4:39-58, 5:47 to 8:9. Ueda further teaches the poor performance of polyetheresteramide in surface orientation in crystalline polyolefin resins, such as polypropylene, can be improved by the use of a polyamide resin, with the “desired antistatic property being effected with a small amount of polyetheresteramide.” Ueda, e.g., 5:37-42. Ueda teaches compositions that comprise 3 to 40 % by weight of the polyetheresteramide and 60 to 97% by weight of the thermoplastic resin, wherein the composition can further contain compatibilizers and polyamides. Ueda, e.g., abstract, 2:46-48, and 8:50-56. Ueda discloses Preferable Composition 2 comprising a polyolefin in the range of 55 to 95 % by weight, a polyetheresteramide in the range of 3 to 40 % by weight, a polyamide resin in the range of 1 to 20 % by weight, and a compatibilizer in the amount of 0.2 to 20 % by weight. Ueda 9:34 to 10:7. Ueda teaches the compositions can be blended by extrusion and can contain additives such as fillers and surfactants. Ueda 11:19-24. Ueda discloses testing the exemplified compositions by measuring the surface resistivity of unwashed and water washed pieces prepared by injection molding, establishing that the polyetheresteramide antistatic agent is “permanent” as it does not wash out. Ueda, e.g., 12:37-46, and Table 1.

We find Appellants acknowledge that it was known that antistatic properties of synthetic papers containing polypropylene films, such as those of Takashi, must be improved for purposes of paper feeding and discharge from a printer and “to be printable by gravure printing, offset printing, flexography, etc.” Appellants further acknowledge that the use in such paper of “a low-molecular weight antistatic agent of the kneading type, e.g.,

sorbitan monooleate or glycerol monostearate” has the “drawback that the antistatic properties do not last for long and there is a desire in the market for an improvement in this respect.” Spec. 1-2.

Opinion

We considered the totality of the record in light of Appellants’ arguments with respect to claims 1, 30 through 34, and 47 through 49 and the grounds of rejection advanced on Appeal. *See, e.g., In re Kahn*, 441 F.3d 977, 985-86 (Fed. Cir. 2006) (“‘On appeal to the Board, an applicant can overcome a rejection by showing insufficient evidence of *prima facie* obviousness or by rebutting the *prima facie* case with evidence of secondary indicia of nonobviousness.’”) (quoting *In re Rouffet*, 149 F.3d 1350, 1355 (Fed. Cir. 1998)); *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992) (“After evidence or argument is submitted by the applicant in response, patentability is determined on the totality of the record, by a preponderance of evidence with due consideration to persuasiveness of argument.”) (citing, *inter alia*, *In re Spada*, 911 F.2d 705, 707 n.3 (Fed. Cir. 1990)).

We are of the opinion Appellants have not established that the evidence in the combined teachings of Takashi, Ohba, and Ueda does not support the Examiner’s conclusions of *prima facie* obviousness of the claimed synthetic paper encompassed by appealed claims 1, 30 through 34, and 47 through 49.

Claim 1

There is no dispute that Ueda’s polyetheresteramide antistatic agent, polyamide, and compatibilizers and the amounts thereof, fall within the

limitations on components B-D in claim 1.

Appellants submit one of ordinary skill in this art would not have been motivated to use Ueda's antistatic agent, polyamide, and compatibilizers in Takashi's synthetic paper. App. Br., e.g., 7-12. Appellants argue this person would not have selected a polyetheresteramide over other antistatic agents known from Takashi, Ohba, and Ueda because, according to Appellants, polyetheresteramides were known for poor heat resistance, compatibility with thermoplastic resins, and unbalanced antistatic properties. App. Br. 21-24; Reply Br. 3-5. Appellants further argue Ueda teaches the disclosed polyetheresteramide can be used with other thermoplastic resins than polypropylene. App. Br. 22. Thus, Appellants contend one of ordinary skill in the art would have to "pick and choose" from the references to arrive at the claimed invention because this person would not have been led by the references to use polyetheresteramide and polypropylene among a large selection of antistatic agents and thermoplastic resins. App. Br. 10 and 21-25; Reply Br. 4-5.

We cannot agree with Appellants' position. Appellants acknowledge it was known in the art that synthetic paper like Takashi's required improved antistatic properties, and thus one of ordinary skill in this art would have been motivated to use a more effective antistatic agent than disclosed by Takashi. *See above* pp. 7-8. *See, e.g., In re Nomiya*, 509 F.2d 566, 572 (CCPA 1975) ("The significance of evidence that a problem was known in the prior art is, of course, that knowledge of a problem provides a reason or motivation for workers in the art to apply their skill to its solution.").

On this record, we agree with the Examiner that one of ordinary skill in this art would have combined Takashi and Ueda leading to the use of Ueda's particular polyetheresteramide antistatic agent, which has the properties of high heat resistance, permanent antistatic property and compatibility with thermostatic resins, particularly polypropylene, and associated polyamide and compatibilizer components in place of Takashi's antistatic agents with a reasonably predictable expectation of successfully improving the antistatic properties of Takashi's synthetic papers which have a polypropylene resin surface layer. Ans. 11 and 19; *see above* pp. 4-7. Indeed, contrary to Appellants' position, Ueda discloses properties which would have recommended Ueda's particular polyetheresteramide antistatic agents coupled with a polyamide and compatibilizers to one of ordinary skill in this art concerned with the surface resistivity of polypropylene resin film without any necessity to merely "pick and choose" Ueda's polyetheresteramide from among known prior art antistatic agents for the same purpose. *See, e.g., KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007) ("When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense."); *Kahn*, 441 F.3d at 985-88; *In re Corkill*, 771 F.2d 1496, 1497-1500 (Fed. Cir. 1985); *In re Keller*, 642 F.2d 413, 425 (CCPA 1981) ("The test for obviousness is . . . what the combined teachings of the references would have suggested to those of ordinary skill in the art."); *see also, e.g., Pfizer*,

Inc. v. Apotex, Inc., 480 F.3d 1348, 1364 (Fed. Cir. 2007) ("the expectation of success need only be reasonable, not absolute"); *In re O'Farrell*, 853 F.2d 894, 903-04 (Fed. Cir. 1988) ("For obviousness under § 103, all that is required is a reasonable expectation of success." (citations omitted)).

We further cannot agree with Appellants' position that one of ordinary skill in this art following the teachings of Takashi and Ohba would have had to conduct undue experimentation in order to arrive at the claimed opaqueness range of from 83 to 96% because Ohba does not provide guidance in this respect. Reply Br. 2-3; *see also* App. Br. 12-13. Takashi discloses the effect of stretching and fine inorganic filler content on paper-like film layer of the illustrative embodiments is the formation of microvoids therein, thus providing a paper-like film layer having an opaqueness within the range of 83 to 96%. The microvoids are 10% to 65% of the volume of the film and determine the gloss and opaqueness of the film. *See above* pp. 4-6. Ohba discloses an opacity of at least 80% can be obtained by stretching a polyolefin film containing the same amounts of fine inorganic filler to obtain microvoids as in Takashi. *See above* p. 6. We are of the view the teachings to stretch the fine inorganic filler containing paper-like film in both Takashi and Ohba would have provided sufficient direction to one of ordinary skill in this art to adjust the two result-effective variables of the amount of stretching and of fine filler to obtain the desired opacity in the paper-like film layer with routine experimentation. *See, e.g., In re Aller*, 220 F.2d 454, 456-58 (CCPA 1955) ("[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.").

Dependent Claims 30 through 34, and 47 through 49

Appellants contend Takashi and Ohba do not disclose the specific stretching ranges in claim 30 and “void content” in claim 31, and that the references do not “disclose explicit formation of cracks on the surface of the stretched film through which antistatic agent can penetrate to the surface of the film.” App. Br. 25 (original emphasis omitted). Appellants further contend Takashi and Ohba do not disclose the specific oxidation treatments, including the corona treatment, in claims 32 and 33; the specific viscosity for polyetheresteramide in claim 34; a three-layer synthetic paper specified in claim 47; the thickness of the surface layer film in claim 48; and the elongation of the polyetheresteramide, polyamide, and compatibilizer components B, C, and D, respectively, in claim 49. App. Br. 25-26.

Contrary to Appellants’ position, the Examiner finds Takashi teaches stretching from 2.5 to 16 times the original dimension and a void content of 10 to 65%. Ans. 20; *see above* pp. 4-5. Indeed, Takashi’s ranges overlap or encompass the claimed ranges of claims 30 and 31 which is sufficient to establish prima facie obviousness. *See, e.g., In re Harris*, 409 F.3d 1339, 1341 (Fed. Cir. 2005); *In re Peterson*, 315 F.3d 1325, 1329-30 (Fed. Cir. 2003); *In re Geisler*, 116 F.3d 1465, 1469-70 (Fed. Cir. 1997); *In re Woodruff*, 919 F.2d 1575, 1577-78 (CCPA 1990). In this respect, and contrary to Appellants’ position, the Examiner finds Takashi’s microvoids read on the claimed cracks in the surface of stretched film. Ans. 20; App. Br. 25. We note that Ohba evinces Takashi’s synthetic papers have microvoids and a vast number of streaking cracks on the surface. *See above* p. 6. The Examiner finds Takashi’s corona discharge treatment falls within

claims 32 and 33. Ans. 20; *see above* p. 5. We note Appellants do not establish the claimed corona discharge treatment range excludes Takashi's corona discharge treatment ranges.

With respect to claim 34, the Examiner finds Ueda's polyetheresteramide component B has the claimed viscosity. Ans. 20-21; *see above* p. 6. The Examiner finds Takashi discloses a three-layer synthetic paper as required by claim 47. Ans. 21; *see above* p. 4. The Examiner also finds Takashi discloses thickness ranges for the surface layer in Table IV which fall within claim 48. Ans. 21; *see above* p. 6. We agree with the Examiner that Ueda would have disclosed to one of ordinary skill in this art that the combination of a polyetheresteramide antistatic agent and compatibilizers along with polyamides, which aids surface orientation of the antistatic agent, would elongate into long particles on the surface of the surface polypropylene resin film when the film is stretched as required by claim 40. Ans. 21, citing Ueda 6:38-42. Appellants have not argued to the contrary.

Specification Comparative Examples 1-3
And Yamanada Declarations I-V

Appellants have not established that the evidence in the combined teachings of Takashi, Ohba, and Ueda does not support the Examiner's conclusion of *prima facie* obviousness, and thus, we now consider anew whether Appellants have shown that the evidence of record, including Specification Comparative Examples 1-3 and Yamanaka Declarations I-V as argued in the Appeal Brief, weighs in favor of nonobviousness.

We are of the opinion Appellants have not established that the evidence of record, including the Specification Comparative Examples and Yamanaka Declarations, weighs in favor of nonobviousness.

We agree with the Examiner's findings with respect to the evidence in the Specification Comparative Examples 1-3 and Yamanaka Declarations I-V. Ans. 9-10, 13, 14-19. The Examiner finds that while the evidence in the Specification Comparative Examples and the Declarations shows the claimed synthetic paper tested is more effective in the property tested, the result is not unexpected because of the composition of the surface resin film and/or the process used to prepare the surface resin film of the synthetic paper representing Takashi. *Id.*

With respect to Specification Comparative Example 1, the Examiner finds one of ordinary skill in this art would have expected poor ink adhesion properties when the surface resin layer of the synthetic paper contains no antistatic agent in view of Appellants' disclosure that an antistatic agent is necessary for ink adhesion as known in the art. Ans. 9, citing Spec. 1; *see above* pp. 7-8. With respect to Specification Comparative Example 2, the Examiner finds this person would have expected poor ink adhesion properties when the surface resin layer of the synthetic paper contains no filler in view of Takashi's disclosure that microvoids improve ink adhesion. Ans. 9, citing Takashi col. 5, ll. 8-56; *see above* p. 5. With respect to Specification Comparative Example 3, the Examiner finds this person would also have expected poor ink adhesion, surface resistivity, and paper feeding properties when the surface resin layer of the synthetic paper is not stretched

in view of Takashi's disclosure that orientation, that is, stretching, is necessary to improve the properties. Ans. 9-10, citing Takashi col. 5, ll. 8-56; *see above* pp. 4-5. The Examiner further finds the results of improved antistatic properties by stretching surface resin layers having the claimed polymeric antistatic agent in experiments conducted in the same manner as Specification Comparative Examples 2 and 3 in Yamanaka Declaration II, is not unexpected because the "claimed invention was not compared to the closest prior art . . . [which] is an embodiment of Takashi that comprises an antistatic agent other than the claimed antistatic agent." Ans. 14-15.

With respect to Yamanaka Declaration I, the Examiner finds that one of ordinary skill in this art would have expected the improvement in antistatic properties of a claimed synthetic paper compared with a synthetic paper of Takashi because this person would have known from Ueda that the antistatic components used in the claimed synthetic paper would be retained after washing. Ans. 14-15, citing Ueda Table 1; *see above* p. 7.

With respect to Yamanaka Declaration III, the Examiner finds the comparison is between the claimed synthetic paper of Experiment 4 with synthetic papers as in Takashi Example 12 containing polyetheresteramide or other antistatic agents in Examples 1-3. The Examiner further finds one of ordinary skill in this art would have expected the improvement in antistatic properties and printability by the claimed synthetic paper. This is because the antistatic component in each of Takashi's synthetic papers washed out as expected from Ueda who teaches that a polypropylene composition containing polyetheresteramide, polyamide, and compatibilizers

“will retain its antistatic properties after washing,” and as Appellants acknowledge, a sheet with high surface resistivity will exhibit poor offset printing. Ans. 15-16, citing Spec. 1; *see also* Ans. 13; *see above* pp. 7-8. The Examiner finds in this respect that the paper of Takashi containing polyetheresteramide does not contain polyamide and compatibilizers. Ans. 16. The Examiner further finds that the experiments in this Declaration are not commensurate in scope with claims which do not require a three-layered synthetic paper.

With respect to the further Example in the Yamanaka Declaration III involving a polypropylene of Ueda, the Examiner finds that the evidence is not persuasive because the Example does not represent the closest prior art because the ground of rejection is not based on using a polypropylene resin taught in Ueda in place of polypropylene resins for surface layers of synthetic papers taught by Takashi. Ans. 13; *see also* Ans. 16-17.

With respect to Yamanaka Declaration IV, the Examiner finds one of ordinary skill in this art would have expected the improvement in resistivity and offset printing properties of a claimed synthetic paper compared with a synthetic paper of Takashi because this person would have known from Ueda that an article prepared from a composition containing polypropylene resin, polyetheresteramide, polyamide, and compatibilizers would not be washed out, and that the composition must contain the polyamide and the compatibilizers along with the polyetheresteramide to obtain the desired properties. Ans. 17.

In Yamanaka Declaration V, the Examiner finds the claimed synthetic paper of Specification Example 1 prepared in Experiment 4 is compared

with synthetic papers prepared in the same manner as Takashi's Example 12: Experiment 1 is Takashi Example 12 containing a low molecular weight antistatic agent; Experiment 2 contains polyetheresteramide; and Example 3 contains a low molecular weight antistatic in the amount of 20 parts by weight. Ans. 17-18. The Examiner finds that one of ordinary skill in this art would have expected the low molecular weight antistatic agents of the synthetic papers of Experiments 1 and 3 would be washed out in view of Ueda's teaching that the polyetheresteramide antistatic is permanent. Ans. 18. The Examiner further finds that the polyetheresteramide in the synthetic papers of Experiments 2 and 4 does not washout. The Examiner finds the result, that the claimed synthetic paper has high surface resistivity and thus better offset printing properties than the synthetic paper of Experiment 2, is not unexpected by one of ordinary skill in this art because the latter synthetic paper contains too little polyetheresteramide antistatic agent to achieve a desirable result. The Examiner further finds that multiple variables between the claimed synthetic paper of Experiment 4 and the synthetic paper of Experiment 2 precludes a conclusion based on the results because it is not apparent from the evidence which variables are responsible for the differences in surface resistivity and printing properties of these Experiments. Ans. 18-19.

We agree with the Examiner's findings that the Specification Comparative Examples 1-3 and the Yamanaka Declarations I-V do not present a comparison between a claimed synthetic paper and a synthetic paper of Takashi which are prepared using the same process steps and differ

solely in the antistatic agent contained in the composition for the surface resin film. Ans. 9-10, 13, 14-19; *see* Spec. 31-33 and Table 2; Decl. I: Table 2 and Spec. Table 2; Decl. II: Table 1 and Spec. Table 2; Decl. III: pp. 6-7, Tables 1 and 2, Spec. Example 1, Takashi Example 12, and Ueda Example 43; Decl. IV: Tables 1 and 2, Spec. Example 1, and Takashi Example 12; Decl. V: Tables 1 and 2, Spec. Example 1, Takashi Example 12 and Tables I(b) and III.

We cannot agree with Appellants' arguments that the evidence can be viewed in a different light than that advanced by the Examiner. App. Br. 8-9, 11-12, and 13-21. Indeed, Appellants have not established by argument or evidence that the results shown in Specification Comparative Examples 1-3 and the Yamanada Declarations I-V would have been unexpected by one of ordinary skill in the art in light of the teachings of Takashi, Ohba, and Ueda. App. Br. 8-9, 11-12, and 13-21. *See, e.g., Pfizer*, 480 F.3d at 1371 (“[B]y definition, any superior property must be *unexpected* to be considered as evidence of non-obviousness.” (citations omitted.)); *In re Geisler*, 116 F.3d at 1469-70; *In re Merck*, 800 F.2d 1091, 1099 (Fed. Cir. 1986); *In re Longi*, 759 F.2d 887, 896-97 (Fed. Cir. 1985); *In re Lindner*, 457 F.2d 506, 508 (CCPA 1972); *In re Klosak*, 455 F.2d 1077, 1080 (CCPA 1972); *In re D’Ancicco*, 439 F.2d 1244, 1248 (CCPA 1971).

In this respect, Appellants submit that an essential feature of the claimed synthetic paper is the resistivity properties and offset printing properties resulting from orienting a surface resin film containing filler, polyetheresteramide antistatic agent, polyamide, and compatibilizers. App. Br. 9. Appellants argue that this result would not have been suggested by

Ueda, contending that evidence in the Yamanaka Declaration III establishes a film prepared with a polypropylene used by Ueda for injecting molding could not be biaxially stretched. App. Br. 9 and 10-12.

Contrary to Appellants' position, we agree with the Examiner that the evidence does not provide a comparison with the closest prior art which is a synthetic paper of Takashi, in a manner which establishes Appellants' contention of improved resistivity properties based on stretching a polypropylene resin film containing filler, polyetheresteramide and related components vis-à-vis the teachings of Takashi and Ueda because of the numerous resin composition and processing variables. Ans. 10; *see above* pp. 14-17. As further pointed out by the Examiner, Appellants' evidence based on Ueda does not reflect the thrust of the ground of rejection which is the inclusion of Ueda's polyetheresteramide antistatic agent, polyamide and compatibilizer components in Takashi's polypropylene resin-based surface films that contain filler and antistatic agents and can be orientated or stretched. Ans. 10-13; *see above* pp. 15-16. *See, e.g., In re Baxter Travenol Labs.*, 952 F.2d 388, 392 (Fed. Cir. 1991) ("[W]hen unexpected results are used as evidence of nonobviousness, the results must be shown to be unexpected compared with the closest prior art." (citation omitted)); *In re Burckel*, 592 F.2d 1175, 1179-80 (CCPA 1979) (the claimed subject matter must be compared with the closest prior art in a manner which addresses the thrust of the rejection); *In re Dunn*, 349 F.2d 433, 439 (CCPA 1965) ("[W]e do not feel it an unreasonable burden on appellants to require comparative examples relied on for non-obviousness to be truly comparative. The cause and effect sought to be proven is lost here in the welter of unfixed

variables.”). Indeed, Appellants’ mere arguments to the contrary in these respects is entitled to little, if any, weight. *See e.g. Lindner*, 457 F.2d at 508-09 (“This court has said . . . that mere lawyers’ arguments unsupported by factual evidence are insufficient to establish unexpected results.” (citations omitted)).

Thus, on this record, as the Examiner finds, the evidence establishes no more than that the results of the comparisons presented would have been expected by one of ordinary skill in this art in light of the teachings of Takashi, Ohba, and Ueda. *See, e.g., In re Hoffmann*, 556 F.2d 539, 541 (CCPA 1977) (reference disclosed property argued to be unexpected); *In re Skoll*, 523 F.2d 1392, 1396-97 (CCPA 1975) (reference suggested the desirability of substituting a reagent for that used in the process of another reference); *In re Gershon*, 372 F.2d 535, 538-39 (CCPA 1967) (references teach the superiority of using a reagent for a particular purpose).

Conclusion

Accordingly, based on our consideration of the totality of the record before us, we have weighed the evidence of obviousness found in the combined teachings of Takashi, Ohba, and Ueda with Appellants’ countervailing evidence of and argument for nonobviousness and conclude, by a preponderance of the evidence and weight of argument, that the claimed invention encompassed by appealed claims 1 and 28 through 49 would have been obvious as a matter of law under 35 U.S.C. § 103(a).

The Primary Examiner’s decision is affirmed.

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No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(v).

AFFIRMED

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